



**FULTON COUNTY DEPARTMENT OF PUBLIC WORKS**  
**WATER CONSERVATION PLAN**

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**Fulton County Department of Public Works**  
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## **I. Introduction**

The mission of the Fulton County Public Works Department (DPW) is to deliver cost-effective, adequate and reliable supplies of water to the residents of Fulton County. With over 1,100 miles of water pipelines and a permitted withdrawal capacity of 90 million gallons per day, Fulton County distributes potable and reuse water to more than 70,000 customers in north Fulton County. Because Fulton County is a growing County, it must work to balance available water resources and the increasing demand for water. The least expensive way to provide water for growth and to assure an adequate supply for the future is through wisely managing and carefully using (and reusing) the supplies we already have.

The purpose of the Water Conservation Plan is designed to:

- Reduce peak water demands through efficient water use; thereby, reducing capital expenditures for meeting increased capacity needs.
- Encourage the wise use of water by helping our customers identify water as a finite resource.
- Contribute to ensuring an adequate clean drinking water supply for our present and future customers.
- Educate all areas of the public on the need to conserve water.
- Enhance Fulton County's commitment to responsible environmental stewardship.
- Continue to improve system monitoring and maintenance.
- Contribute to the District's target goal of reducing per capita water use by 11 percent, or 136 MGD, by 2030.

The success of this Water Conservation Plan requires a partnership between the water customers and the water provider. Fulton County must provide the assistance and support necessary to exercise proper stewardship over our water resources and the customers must agree to manage their water use wisely. Through comprehensive planning, the responsible application of best available water conservation practices, public education, and reuse of treated wastewater, our water resources can be managed to sustain projected growth well into the future.

## **II. Background**

In 2001, the Georgia General Assembly enacted Senate Bill 130, which established *The Metropolitan North Georgia Water Planning District* (the "District") and charged it with addressing comprehensive water resource management planning in the 16-county area of metropolitan north Georgia. Water conservation is essential to meeting projected District water demands; therefore, each of the sixteen counties in the metropolitan area has been charged with the task of creating and managing its own water conservation program.

The source of drinking water for the North Fulton Water System is the Chattahoochee River, which is a part of the Apalachicola-Chattahoochee-Flint (ACF) drainage system which provides water resources to Alabama, Georgia and Florida. Since the Chattahoochee River is a shared resource amongst multiple jurisdictions and water supply to many counties and cities in Georgia experiencing rapid economic and population growth, it becomes increasingly important that the County develop water conservation measures to ensure future availability of potable water resources to meet projected District water demands.

Implementation of the recommended District's plan for water conservation will require new policies, new laws and new responsibilities for Fulton County and its customers. Successful implementation will be facilitated by broad education and public awareness. Water conservation is not something that can be imposed on the public; it must be voluntarily and willingly accepted and become a shared responsibility between Fulton County and its customers. Only if consumers are willing to embrace and practice a conservation ethic, and adopt water conservation as a fundamental part of their lifestyle, can the County succeed in meeting its long-term water conservation and supply goals.

### **III. Conservation Initiatives**

The US Water Resources Council defines water conservation as activities designed to (1) reduce the demand for water, (2) improve efficiency in use and reduce losses and waste of water, or (3) improve land management practices to conserve water." In order to ensure an adequate and affordable future water supply, Fulton County current and proposed conservation policies seek to provide mechanisms that will reduce water consumption per capita, reduce the demands of seasonal water use and encourage business/industry to maximize water use within their respective operations. The Plan will build upon the existing activities through improved coordination and increasingly stronger focus on bringing together the efforts of various public entities with those of the private sector. The following is an outline of the programs currently being implemented or scheduled for implementation as part of the Water Conservation Plan.

#### **A. Current Initiatives**

##### **1. Conservation Pricing**

Charges for water provided by the County include connection charges, system development charges, monthly meter charges, retail water charges, wholesale water charges, fire protection charges and seasonal water surcharges. Water rates are fixed by the County and are subject to change, as the County deems necessary. The Department of Public Works and the Fulton County Board of Commissioners adopted the current rates, which became effective in 2004.

One of the most effective tools in managing water consumption is conservation pricing. By increasing the unit cost of water, demand is reduced. Fulton County has instituted a seasonal water rate conservation structure (winter: November-March and summer: April-October). Seasonal rates are tiered higher during peak seasonal demands. Rates during the remaining months of the year are uniform. A baseline (Tier 1) is established for each customer based upon their average monthly usage during the winter period. (Baselines are refigured on a yearly basis). Summer usage is billed against the winter base line by using the 3-tier system. In addition, for irrigation meters, consumption is billed at the surcharge rates.

The current rate schedule is as follows:

- Thresholds for conservation pricing at 130% and 200% of base line usage
- Conservation pricing (Effective April through October)
  - Tier one (0-130% of base usage) – base water rate (no change)

- Tier two (131- 200% of base usage) – 125% of base water rate (25% surcharge)
- Tier three (over 200% of base usage) – 200% of base water rate (100% surcharge)
- Irrigation Meters
  - Up to 5670 gallons per month – base water rate
  - Over 5670 gallons per month – 200% of base water rate (100% surcharge)

*Note: Conservation surcharges will not apply to businesses that are dependent on water usage, including car washes, nurseries, etc.*

## 2. Legislation for Low-flow Plumbing Fixtures

The County Code specifies that plumbing in new construction must meet current low flow criteria mandated by state law passed in 1992, which requires the use of ultra-low-flow plumbing fixtures in all new construction, or when replacing plumbing fixtures during renovation or remodeling of existing buildings, and the labeling of plumbing fixtures with information regarding flow rates for the purpose of conserving water to maintain the integrity of drinking water supplies and reduce wastewater flows. The County provides this information in the Municipal Codes <http://www.municode.com/resources/gateway.asp> Chapter 14, Article 2 Division 2.

All plumbing fixtures installed as referred to above should not exceed the following maximum water use rates:

a.	Toilets	1.6 gallons per flush
b.	Urinals	1.0 gallons per flush
c.	Showerheads	2.5 gallons per minute
d.	Kitchen faucets	2.5 gallons per minute
e.	Bathroom and lavatory faucets	2.0 gallons per minute

## 3. Proposed Ordinance Changes

- All new in-ground landscape irrigation systems must be equipped with an automatic rain sensor shut-off device. A shut-off device (or rain sensor) is designed to halt irrigation in response to rainfall.
- All new multi-family buildings shall be constructed so that each individual dwelling unit shall be metered in such a way that all water used by said dwelling can be recorded and billed.

#### **4. Systems Maintenance**

Fulton County currently has a strong maintenance program involving the systematic replacement of water meters to eliminate inaccurate meters before they wear out, with a goal of reducing system losses below 10%. Additionally, all meters 5/8" – 2" will be replaced every 10 years. All large meters will be tested annually. Approximately 500 large meters will be replaced between 2004 and 2008. Furthermore, all large meters will be automated.

#### **5. Outdoor Water Use**

##### **a. Water Reuse Program**

Fulton County contracted with a private company to build and operate its first treatment facility (Cauley Creek) with a comprehensive reuse program. The plant, which was placed in operation in 2002, currently produces up to 5 MGD of reuse quality water. The treated effluent is used to irrigate golf courses and other landscaped areas. Presently this service is not available to private homeowners; however there are plans to make this service available in the future. Customers are required to sign a written agreement and attend a reuse educational program before being connected to the reuse system. Additionally, customers must post signs informing the public that reclaimed water is used for irrigation purposes and that it is not intended for drinking.

##### **b. Efficient Landscape Program**

A water-conservative approach to landscaping (i.e., Xeriscape and drought landscaping objectives) is being promoted. Plants whose natural requirements are appropriate to the local climate are emphasized, and care is taken to avoid losing water to evaporation and runoff. Publications, speaking engagements, exhibits, and community workshops present efficient landscaping concepts and methods to residents and businesses.

The DPW works in partnership with the Fulton County Extension Service and the Clean Water Campaign to conduct classes on:

- Xeriscaping
- Composting
- Rain Gardens

##### **c. Rain Barrel/Rain Garden Program**

A demonstration rain garden has been installed at the Atlanta-Fulton County Water Resources Commission's water treatment plant for educational purposes and to demonstrate responsible and water-efficient landscaping. Additionally, Fulton County has partnered with local businesses such as Harry's Farmers Market

and Coca-Cola to host rain barrel workshops and composting workshops.

## **6. Public Education and Outreach**

The protection and conservation of Fulton County's water resources for future generations can only occur through comprehensive stewardship practices that include both public education and community outreach. Consumers often don't realize that many of the things they do every day in and around their homes contribute to the degradation of our water resources. When people know, understand, and change how they use water, water conservation and water quality issues can be solved. To this end, Fulton County recognizes that developing a well-designed public education and outreach program can make a positive impact on public opinion, target specific audiences, and be a cost-effective way of providing critical information to a large number of people, while helping to preserve our precious water resources.

Below is a partial listing of programs that are currently being done as part of the Public Education and Outreach Program.

### **a. School Education**

Fulton County provides conservation education through classroom presentations, community programs, and public workshops. One of the most effective ways of educating the community is through children's programs because children carry the message home. Common presentation tools include interactive games, videos, puppet shows, Project WET (Water Education for Teachers) and the Enviroscape model, to name a few.

### **b. Field Trips**

Fulton County's drinking water and wastewater treatment plants are available for educational tours for the public to gain a better understanding of the importance of providing clean safe water. Water Services staff work with the local schools and senior centers to schedule tours of the facilities.

### **c. Workshops**

Fulton County has partnered with the Cooperative Extension Services, The City of Alpharetta, and local businesses to offer water conservation education. The programs consist of rain barrel/rain garden workshops, U-Fix-It workshops, home water audits for leak detection and repair advice.

### **d. Literature**

The DPW has literature available on a variety of conservation topics and techniques and is provided upon request through

telephone inquiries, at special events, through customer services locations, and via distribution by Water Services staff during normal field activities or presentation opportunities.

e. Community Events

Fulton County partners with other water utilities, municipalities, civic and non-profit organizations, and water resource agencies to provide community outreach and education primarily through festivals, fairs, and beautification projects. By sponsoring or exhibiting at community events, staff can directly communicate with residents about important water conservation and quality issues. Activity packages (games, brochures, etc.) are created and distributed; along with promotional items such as pencils, flower seeds, and cups.

**B. Expanded Initiatives**

**1. Conservation Pricing**

Fulton County Water System will periodically review its existing rates and recommend adjustments as directed in the district plan.

**2. Legislation**

- a. Fulton County will complete the process of adopting ordinances to address the rain sensor shut-off switches on new irrigation devices and sub-unit metering.
- b. Staff will start a comprehensive plan to audit all of Fulton County existing irrigation systems, install rain sensors and provide training on equipment.
- c. Fulton County is prepared to participate in education and outreach programs as requested by the District to encourage support for pending legislation.

**3. System Maintenance**

- a. Significant water savings can be achieved by maintaining sound water distribution infrastructure. Fulton County intends to achieve levels of unaccounted for water well below the District's target of 15%. Fulton County will continue its ongoing effort by:
  - Managing the meter replacement, leak detection and repair and valve maintenance programs.
  - Maintaining accurate maps to improve response time and minimize system damage.
  - Upgrading system security to prevent water loss through vandalism.



#### **4. Residential Water Audits**

Residential (single-family and multi-family) water use represents approximately 85 percent of Fulton County's water consumption. Most of our water conservation efforts have targeted this segment of customers. To further develop this program, Fulton County will:

- a. Prepare a comprehensive homeowners' guide to self water audits. Homeowners will be instructed in methods for detecting and repairing leaks and increasing water efficiency in the home. The document will be made available to homeowners upon request and via the County's website.
- b. Provide technical assistance by offering water audits for residential properties (possibly on a rotating schedule so that a percentage of water customers could be audited each year). Program would initially start with older homes or low-income households.
- c. Develop and conduct workshops/presentations on water audits and leak detection repair. Provide incentives/rebates for installation of water efficient devices.
- d. Partner with the Finance Department on monthly consumption reports so they can monitor their usage and find leaks and misuse faster.
- d. Establish home efficiency awards/incentives where builders may be rewarded for surpassing building code requirements for water-efficient plumbing fixtures and/or including other water saving elements in new home construction.

#### **5. Commercial Water Audits**

- a. Prepare a comprehensive commercial guide to self water audits. Businesses will be instructed in methods for detecting and repairing leaks and increasing water efficiency in the facility. The document will be made available to businesses upon request and via the County's website.
- b. Provide technical assistance for large volume (top 10%) users by establishing a baseline of their usage, visiting their facility to possibly recommend different efficiency actions to reduce their water related costs and assisting in the development of conservation plans.
- c. Conduct water audit of all County buildings and report findings/recommendations by the end of 2008.

- e. Recognize/reward those businesses which make significant efforts to conserve water.

## **6. Retrofit Kits**

Varying opinions exist on the effectiveness, implementation and potential cost savings of retrofit kits. Fulton County will do a pilot program to offer a minimal number of retrofit kits (both indoor and outdoor).

- a. Indoor retrofit kits will consist of low-flow showerheads, leak detection dye tablets, toilet displacement device, faucet aerator, faucet washers, and material information packet. Installation of these items will be used to alter existing fixtures, making them more water efficient. The distribution, at no charge, will be targeted to low income and senior users. This sector of consumers is most likely to have older homes, not affected by low flow legislation passed in 1992. This process will be tracked through a database in order to monitor the success of the program.
- b. Outdoor retrofit packages will be made available for a nominal fee to our other customers. These packages may include soaker hose, rain gauge, and leak detection and repair kit.

## **7. Outdoor Water Use**

Outdoor water use, including irrigation, car washing, and swimming pools, accounts for a large percentage of water consumption, particularly during the summer months. Fulton County will enhance its conservation efforts to include the following:

- a. Fulton County will partner with *the University of Georgia Cooperative Extension Services' Master Gardener Program* to offer programs to local businesses, i.e., workshops on irrigation, Xeriscaping, composting, tree care, and rain gardens. This will allow us access to Homeowner's Associations, businesses, garden clubs, local business, civic groups, etc.
- b. Continue to provide information packets on xeriscape landscaping practices, native plants, rain barrels, rain gardens, etc.
- c. Develop a water-efficient demonstration garden at the South Fulton Maintenance and Operations Center. The garden would include the landscaping practices of xeriscaping, rain garden and water reuse. The garden would be an educational resource for schools and citizens of Fulton County.
- c. Work with the General Services Department to install water conservation mechanisms (low-flow fixtures, rain sensors, drought-tolerant landscape, etc.) at County facilities.

- d. Continue to offer rain barrel workshops to encourage water conservation and the collection of water to use in landscapes.
- e. Provide irrigation seminars for citizens to encourage them to become pro-active with their own irrigation systems. We will offer rain gauges as giveaways
- f. Implement a community partnership program with businesses wherein they become certified community partners by implementing several “green” practices.
- g. Offer incentives/rebates for the installation of rain sensors/automatic shutoff devices on existing irrigation systems.
- h. Develop marketing strategies for homebuilders encouraging the industry to incorporate Xeriscaping materials throughout home landscapes and common areas in neighborhoods. Additionally, staff will work with nursery and landscape businesses to distribute water-efficient landscaping literature. A plant of the month can be listed on bill inserts, web page, newsletters along with success stories from citizens who have used xeriscape practices in their landscapes. The County will work with the Cooperative Extension Service on this program for guidance and implementation.
- j. Drought Management

The County has adopted the Georgia Department of Natural Resources *Drought Management Plan* (DMP) which was approved in 2003. The DMP outlines the roles both emergency supplies and conservation programs would play during future drought occurrences. The plan includes progressively stringent steps, ranging from voluntary to mandatory restrictions on use for certain non-essential applications. Fulton County, as well as other local jurisdictions, has the right to implement more stringent water use restrictions. Fulton County is currently modifying its policies so as to offer incentives, impose surcharges on water bills, and tighten enforcement actions. The plan will be developed and periodically updated.

## **8. Public Education and Outreach**

Educating, informing and communicating with customers, school children, citizen groups, elected officials and the general public will continue to be the key to a successful outreach plan. Below is a partial listing of initiatives that are proposed for the Public Education and Outreach Program:

- a. Enhance the water conservation section of the website ([ww2.fulton.ga.us](http://ww2.fulton.ga.us)) to include: conservation tips, information about our programs, educational fun facts for kids, and lesson plans for teachers.

- b. Continue to provide school programs geared specifically to water conservation (i.e., creating a lesson plan to conduct a water audit of the school).
- c. Prepare a traveling display with miscellaneous literature and books on water conservation and water quality. This display will be rotated to branches of the Fulton County Library System along with art and senior centers on a monthly basis.
- d. Advertise on FGTV using the P2AD/ARC/District sponsored *Water Use It Wisely* campaign. These PSAs may be used at no charge with the District logo. Fulton County's logo can follow the announcement.
- e. Provide conservation tips and frequently asked questions on the Fulton County website and the Department newsletter in order to educate our citizens on the importance of water conservation.
- f. Provide annual training to the General Services staff on general water conservation initiatives.
- g. Conduct a survey to perceive the public's opinion of the importance of water conservation and personal knowledge of water conservation techniques. Staff will conduct a series of town hall meetings for Fulton County water customers.
- h. Establish a Landlord/Tenant Relations Program for multi-family dwellings. Develop a Renter's Guide to Water Conservation in both English and Spanish and offer workshops for landlords and residential tenants.
- i. Host the *Cool Water Teacher Workshop* in 2008. This a three day workshop for teachers across the state to receive learning credits based around water related issues including water conservation.
- j. Continue to participate in, exhibit and distribute literature and promotional items such at community events including Safe Drinking Water Week, Clean Water Week, Children's Drinking Water Festival, Public Works Week, Earth Day, neighborhood cleanups, etc.

#### **IV. Implementation**

Implementing the initiatives outlined in the Water Conservation Plan is, by itself, not enough. Because water saved through these programs has become an important component of future water supply planning, the DPW needs to know how well these strategies are working, when they should be initiated, intensified or phased out, how they affect customer's lifestyles or businesses, how they affect the human and natural environment, whether they give rise to unforeseen problems, conflicts or legal issues and whether they are worth the costs.

Fulton County DPW will be monitoring the implementation of this program and reporting progress to the District as mandated in the conservation plan. An annual summary highlighting the progress and achievements of the Water Conservation Program will be prepared for review by the Board of Commissioners. The plan will be reviewed and amended to meet the above-mentioned goals. In the coming years, Fulton County will introduce additional phases of the Water Conservation Program, including enhanced conservation incentives and appropriate code amendments and enforcement actions.